

# Optimization for airlines

High-performance optimization with remote execution



Today's airlines face the pressure of an intensely competitive market where profit margins, safety, and customer experience are consistently under duress and change is the only constant.

Whether you're responsible for building and maintaining aircraft, scheduling maintenance, managing fuel costs, optimizing seat pricing, or scheduling crews and gate assignments, you're part of a group that handles some of the toughest optimization problems in the world.

As technology, customer preferences, and world events evolve, airlines need the ability to quickly adjust for unexpected disruptions. That's where FICO® Xpress Optimization comes in, using decision science and mathematical optimization to quickly solve your biggest business problems, often in the face of uncertainty

Some of the most profitable airlines in the world, including American Airlines and Southwest Airlines, are boosting crew performance, reducing fuel costs, and increasing customer satisfaction by deploying FICO optimization across their business.

- Saved \$19 million a year by optimizing fuel tankering strategies
- Reduced annual fuel costs by \$20 million per year by optimizing the annual fuel contracts process
- Increased on-time flight performance by 10%–15% for operational disruptions related to weather
- Increased overall on-time flight performance by 2%
- Increased reserve crew availability and lowered overtime pay with \$100M+ in annual ROI
- Increased the number of consistent lines for pilots by 15%, increasing crew satisfaction



The FICO® Xpress Optimization product suite allows businesses to quickly and easily deploy optimization models into real-time and near real-time production environments to solve business problems faster.

**Our commercial suite of optimization solutions enables users to easily build, manage, and deploy optimization solutions that address the following challenges:**

- Crew Pairing Optimization
- Flight Schedule Optimization
- Aircraft Routing
- Crew Recurrent Training Scheduling
- Crew Recovery
- Aircraft Recovery
- Gate Assignment
- Fuel Tankering
- Maintenance Scheduling
- Instructor Scheduling
- Simulator Scheduling
- Cargo Routing
- Ground Operations Scheduling
- Provisioning Optimization
- Reserve Optimization
- Dispatcher Workload Scheduling
- Loyalty Programs and Offers



**Client:** Southwest Airlines

**Challenge:** Southwest wanted to leverage advanced analytics technology to improve customer experience, enhance employee engagement, and streamline operations to maximize revenue and support growth.

**Solution:** FICO® Xpress Optimization

**Results:** A supported business strategy focused on cost discipline and control, competitive low fares, increased profitability, and enhanced passenger and crew satisfaction.

“FICO Xpress Optimization underlies some of the biggest, most expensive problems that we solve at the airlines.”

— Rusty Burlingame,  
Principal Operations Research  
Southwest Airlines





**Client:** American Airlines

**Challenge:** Increase revenue and reduce costs in a highly competitive, low-margin industry and difficult economic environment.

**Solution:** FICO® Xpress Optimization

**Results:** Significant cost savings through operational efficiency and substantial revenue increases via intelligent pricing and high customer satisfaction.

“Cost was limiting the number of optimization applications we were able to use. Now, with an enterprise FICO Xpress license, we’re expanding our use of optimization engines into other areas. We’re less concerned about monitoring the use of these tools. With the cost savings, we have the freedom to use the technology where we need it.”

— Armando Silva,  
Managing Director of Operations Research  
American Airlines



# Learn more about FICO® Xpress Optimization

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